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The medicinal value of *lalap* (raw vegetable) in Sundanese society at Bogor, West Java, Indonesia

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ABSTRACT

Information about the use of plants as *lalap* (raw vegetables) by Sundanese people at Bogor in West Java, Indonesia, is presented. Many of the raw vegetables have well known and effective medicinal qualities. Several species of *lalap* are becoming less common due to reduction of suitable habitat, increased human population pressures, technological developments and the loss of traditional knowledge of plant uses. Tables of the *lalap* plants and their medicinal uses are included.

KEYWORDS: *Lalap*, vegetable, medicinal plants, Sundanese, Java, Indonesia.

INTRODUCTION

Wild collected and cultivated vegetables are a vital part of day to day life in south-east Asia, and form the basis of the market stalls in most cities and villages. There is a significant amount of published literature available (for example, Siemonsma and Kasem Piluek 1994), but it almost invariably refers to country or regional use of vegetable plants from an agricultural perspective. This paper looks at the use of raw vegetables as medicines in a small area, and evaluates the significance of this use on the conservation status of the species. There appears to be no published literature of a similar nature.

Bogor is located in the province of Jawa Barat, at the western end of the island of Java, in the Republic of Indonesia (Fig. 1). The Indonesian capital, Jakarta, is about 60 kilometres to the north. There are many markets in Bogor and surrounding areas that primarily sell various vegetable foods.

Bogor has a population of about 400,000 people, many of whom are of Sundanese descent. The Bogor area is very densely populated, as is most of West Java. Due to this dense population there is significant pressure on wild and cultivated edible plant resources.

Plants sourced from the wild for sale at the markets are gathered from the less densely populated slopes of Mount Salak and Mount Gede Pangrango, to the south-west of Bogor.

The Sundanese people of West Java use many edible plant species as raw vegetables, which are commonly referred to as *lalap*. The majority of these *lalap* are also considered to be important medicinal plants and they are often consumed for their medicinal qualities as much as for their food value.

Some *lalap* plants are becoming uncommon in the wild due to harvesting for personal consumption or for commercial sale at markets. It seems likely that some taxa will become locally or regionally endangered if this continues.

Another reason for the reduction of the availability of *lalap* in the wild is land being converted to urban areas. Technological developments which lead to the production of mass-produced fast foods also reduce the sociological importance of traditional, labour intensive foods harvested from the wild.

Further, it is suggested that the traditional Sundanese knowledge of the names, uses, distribution and local occurrences of these species is not being 'passed on' to younger Sundanese generations due to recent and continuing lifestyle changes.

METHODS

The information presented here is based upon informal interviews conducted with Sundanese stall-holders at seven different markets in Bogor in Indonesia.

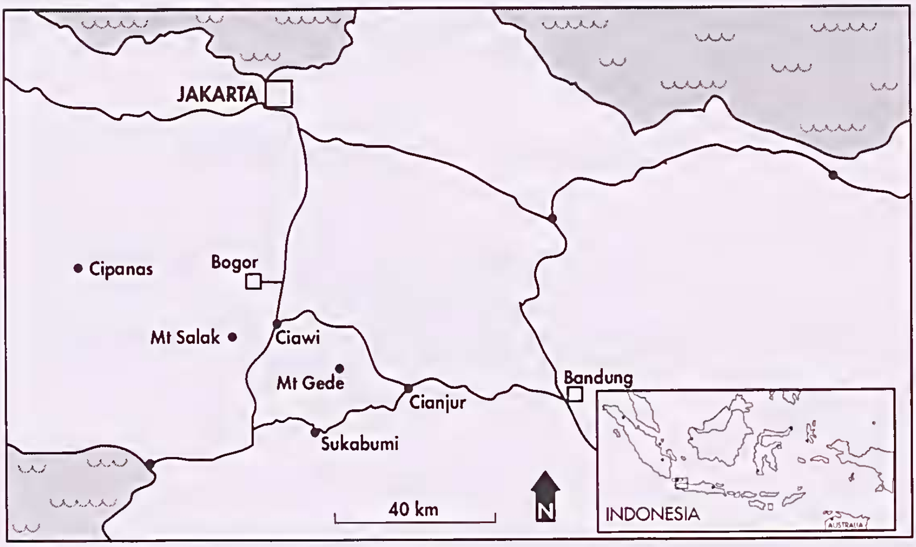

Fig. 1. Locality map of Bogor area, West Java, Indonesia.

Surveys were undertaken on Saturday and Sunday mornings, from 5.00 to 7.00 a.m. when the stalls were most fully stocked with *lalap* prior to the days' sales.

Each market was surveyed two or three times. Surveys were undertaken during the 'dry season' in August 1993 and the 'wet season' in January 1994. Plants were identified on site at the market with their Sundanese and scientific names, and further identification was undertaken at Herbarium Bogoriense when necessary. Names, uses and scientific data were corroborated in relevant published literature including Burkill (1966), Ochse (1977) and Siemonsma and Kasem Piluek (1994), Astuti *et al.* (1995).

Scientific names are based on those in use at Kebun Raya Indonesia (Indonesian Botanic Gardens) and Herbarium Bogoriense (BO). Plant family names are based on those used by Mabberley (1997), and generic names on those listed by Brummitt (1992).

A broad outline of the use of vegetables in south-east Asia is available in Siemonsma and Kasem Piluek (1994). It includes most of the species presented in this paper, but does not reflect the medicinal uses of the plants. There appears to be no other published literature relating to the medicinal value of *lalap* and changes in abundance of these plants.

RESULTS

Raw vegetables recorded at the markets that are also used as medicines are listed in Table 1. Raw vegetables that have no known medicinal properties are listed in Table 2. The markets that data were collected from, together with the dominant *lalap* species for sale at each market during the wet and dry seasons, are listed in Table 3.

DISCUSSION

Taxonomic statistics. The results of informal interviews with stallholders at seven fresh vegetable markets in Bogor indicate that 37 plant species from 20 families, which are used for *lalap*, also have significant medicinal qualities. An additional 12 species, from eight families, are used as *lalap* but have no known medicinal properties.

Plants from the families Compositae (5 species), Cucurbitaceae (4 species) and Leguminosae (4 species) are most widely used as medicinal *lalap*. The families Cruciferae, Euphorbiaceae, Solanaceae (3 species) and Umbelliferae (2 species) also have more than one taxon used as medicinal *lalap*. Thirteen families have a single taxon that is used as medicinal *lalap*. *Lalap* plants occupy a broad taxonomic range over many genera. Only *Solanum* (3 species) and *Lactuca* and *Erechtites* (2 species) have more than one species utilised. Thirty-three genera have one species used as *lalap*.

***Lalap* resource sustainability.** Several medicinal *lalap* plants are becoming less common in the wild and in cultivation due to harvesting for sale at markets and the use of these plants for personal consumption. The main species affected are: *Maesa blumei* (*kipiit*), *Symplocos odoratissima* (*kisariawan*), *Oroxylum indicum* (*pongporong*) and *Staurogyne elongata* (*reudeu*).

Several medicinal *lalap* plants are also becoming less common in the market place. The main species affected are: *Anacardium occidentale* (*mede*), *Cosmos caudatus* (*randamidang*), *Selaginella willdenowii* (*rane*) and *Erechites hieracifolia* (*tespong*).

Table 1. *Lalap* (raw vegetables) used as traditional Sundanese medicine.

Sundanese name	Scientific name and family	Edible portion	Ailment treated	Main source in Java
Antanan	*Centella asiatica* Umbelliferae	leaf	stomach-ache, high fever, lack of appetite	common in wild
Baluntas	*Pluchea indica* Compositae	leaf	body odour, fever	cultivated
Bonteng	*Cucumis sativus* Cucurbitaceae	fruit	hypertension, stomatitis (mouth ulcers)	cultivated
Cangkudu	*Morinda citrifolia* Rubiaceae	young fruit, leaf	hypertension (high blood pressure)	common in wild
Cikur	*Kaempferia galanga* Zingerberaceae	leaf, rhizome	internal injury, pertussis (whooping cough), gastritis, lack of appetite	commonly cultivated
Dadap	*Erythrina variegata* Leguminosae	young leaf	fever, insomnia	uncommon in wild
Gambas	*Sechium edule* Cucurbitaceae	young leaf, fruit	stomatitis (mouth ulcers)	commonly cultivated
Gedang	*Carica papaya* Caricaceae	leaf, young fruit, flower	anaemia, icteric hepatitis, malaria	commonly cultivated
Jaat	*Psophocarpus tetragonolobus* Leguminosae	fruit	furunculosis (severe boils)	commonly cultivated
Kadondong laut	*Polyscias fruticosa* Araliaceae	young leaf	uremia (kidney failure), nephritis (kidney inflammation)	common in wild
Katuk	*Sauropus androgynus* Euphorbiaceae	leaf	laktagoga (lack of milk in nursing mother)	commonly cultivated
Kidewa	*Gynura procumbens* Compositae	leaf	pharyngitis (inflammation of pharynx), cancer	uncommon in cultivation
Kipiit	*Maesa blumei* Myrsinaceae	leaf	childbirth recovery	uncommon in wild
Kisariawan	*Symplocos odoratissima* Symplocaceae	leaf	stomatitis (mouth ulcers)	rare in West Java
Kiurat	*Plantago major* Plantaginaceae	leaf	nephritis (kidney inflammation), uremia (kidney failure)	uncommon in wild
Kucai	*Allium odorum* Alliaceae	all parts	fever, stomach-ache	commonly cultivated
Lampenas	*Lactuca indica* Compositae	leaf	nephritis (kidney inflammation), lumbago, mastitis	common in wild
Leunca	*Solanum nigrum* Solanaceae	leaf, fruit	conjuctivitis	common in wild
Lobak	*Raphanus sativus* Cruciferae	leaf, tuber	dyspepsia (indigestion)	commonly cultivated
Mareme	*Glochidion rubrum* Euphorbiaceae	leaf	used as an expectorant	uncommon in wild
Mede	*Anacardium occidentale* Anacardiaceae	young leaf	tonsillitis, stomatitis (mouth ulcers)	uncommon in cultivation
Paria	*Momordica charantia* Cucurbitaceae	fruit	malaria, lack of appetite	commonly cultivated
Palanding	*Leucaena leucocephala* Leguminosae	fruit	diabetes mellitus	common in wild, cultivated
Peuteuy	*Parkia speciosa* Leguminosae	fruit	diabetes mellitus, dysentery, lack of appetite	uncommon in cultivation
Pongporong	*Oroxylum indicum* Bignoniaceae	leaf, flower	gastritis	rare in West Java
Randamidang	*Cosmos caudatus* Compositae	leaf	lack of appetite	uncommon in cultivation
Rane	*Selaginella willdenowii* Selaginellaceae	leaf	internal injury, stomatitis (mouth ulcers)	uncommon in wild
Reundeu	*Staurogyne elongata* Acanthaceae	young leaf	uremia (kidney failure)	uncommon in wild
Salada cai	*Rorippa nasturtium-aquaticum* Cruciferae	leaf	scurvy	common in wild
Sampeu	*Manihot esculenta* Euphorbiaceae	leaf	poor eye sight	commonly cultivated
Sawi	*Brassica chinensis* Cruciferae	leaf	dysentery	commonly cultivated
Sintrong	*Erechtites valerianifolia* Compositae	leaf	hypertension (high blood pressure)	common in wild
Sorawung	*Ocimum tenuiflorum* Labiatae	leaf	body odour	commonly cultivated
Takokak	*Solanum torvum* Solanaceae	fruit	aphrodisiac	uncommon in cultivation
Terong	*Solanum melongena* Solanaceae	fruit	furunculosis (a severe case of boils or inflamed sores)	commonly cultivated
Wortel	*Daucus carota* Umbelliferae	tuber	poor eye sight, ascariasis (round worm infection)	commonly cultivated
Waluh	*Cucurbita moschata* Cucurbitaceae	young leaf	ascariasis (round worm infection)	commonly cultivated

Table 2. *Lalap* (raw vegetables) which are not used as medicine.

Sundanese name	Scientific name and family		Edible portion	Distribution in Java
Buncis	*Phaseolus vulgaris*	Leguminosae	fruit	common in cultivation
Eceng	*Sagittaria sagittifolia*	Alismataceae	leaf	common in wild
Genjer	*Limnocharis flava*	Alismataceae	leaf, flower	common in wild
Kacar panjang	*Vigna unguiculata*	Leguminosae	young leaf, fruit	common in cultivation
Kemang	*Mangifera caesia*	Anacardiaceae	young leaf	rare
Kapri	*Pisum sativum*	Leguminosae	young leaf	uncommon in cultivation
Kidenok	*Euphorbia pulcherrima*	Euphorbiaceae	stem, leaf	uncommon in cultivation
Poh-pohan	*Pilea melastomoides*	Urticaceae	leaf	common in wild
Rasamala	*Altingia excelsa*	Hamamelidaceae	young leaf	uncommon in wild
Secin	*Brassica* spp.	Cruciferae	leaf	common in cultivation
Salada	*Lactuca sativa*	Compositae	leaf	common in wild
Tespong	*Erechtites hieracifolia*	Compositae	leaf	common in wild

Table 3. Dominant *lalap* species at markets in Bogor.

Market name	Dominant species during dry season	Dominant species during wet season	Main source area for market
Ps Anyar	*Cosmos caudatus*	*Limnocharis flava*	Ciapus, Ciampea, Salabenda
	Pilea melastomoides	*Rorippa nasturtium-aquaticum*	
	Momordica charantia	*Mangifera caesia*	
	Manihot esculenta	*Parkia speciosa*	
Ps Bogor	*Phaseolum vulgaris*	*Daucus carota*	Cipanas
	Daucus carota	*Phaseolum vulgaris*	
Ciomas	*Ocimum tenuiflorum*	*Limnocharis flava*	Cileueur
	Psophocarpus tetragonolobus	*Cosmos caudatus*	
	Momordica charantia	*Sauropus androgynus*	
	Pilea melastomoides	*Parkia speciosa*	
Kapuk	*Ocimum tenuiflorum*	*Pilea melastomoides*	Ciapus, Salabenda
	Momordica charantia	*Limnocharis flava*	
	Manihot esculenta	*Rorippa nasturtium-aquaticum*	
Purbasari	*Carica papaya*	*Pilea melastomoides*	Cileueur, Ciapus
	Manihot esculenta	*Limnocharis flava*	
	Cucumis sativus	*Mangifera caesia*	
		Parkia speciosa	
Ramayana	*Momordica charantia*	*Pilea melastomoides*	Ciapus, Cipanas
	Ocimum tenuiflorum	*Psophocarpus tetragonolobus*	
	Sauropus androgynus	*Limnocharis flava*	
	Manihot esculenta	*Parkia speciosa*	
Sukasari	*Phaseolus vulgaris*	*Phaseolus vulgaris*	Ciapus, Cipanas
	Daucus carota	*Cucumis sativus*	

The primary reasons for this reduction in plant availability in the wild and naturalised situations are a reduction of suitable habitat due to urban developments and increased pressure on food resources in relatively recent times due to increased human population numbers.

The main reasons for the reduction of market demand for *lalap* are threefold. Firstly, technological developments have decreased the sociological importance of *lalap* knowledge. Secondly, senior Sundanese generations are not ‘passing on’ traditional *lalap* knowledge to younger Sundanese people. And thirdly, younger Sundanese people do not value traditional Sundanese knowledge due to relatively recent lifestyle changes in West Java.

It appears that many younger Sundanese people prefer to eat foods of a more contemporary nature, rather than the more traditional health promoting *lalap* available from markets in Bogor.

The Sundanese tradition of eating these medicinal *lalap* species is a long held tradition. Sundanese people living in smaller, more remote villages still commonly eat *lalap* and prefer it to more recently introduced foods.

It is possible that the reduction of *lalap* availability and demand outlined above could balance each other out and result in a negligible effect on the *lalap* resource. However, if the *lalap* resource reduction significantly precedes a reduction in demand, this could cause a significant shortage of *lalap* for the Sundanese people of Bogor.

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